place the Disney lid on the device, the itinerary, activities, diary and photos that were made that day appear for sharing with friends.

4.12. Vending Machine Theme

[0186] In this non-limiting example, a user uses his container (**408**) to obtain a beverage from a vending machine. Upon approaching the nearest vending machine, a menu pops up that allows the user to select a beverage. The user authenticates a purchase by placing a finger on the designated fingerprint reader device (**418**). Upon placing his container on the cupholder, the machine rinses the container, after which it gets filled with the selection. The screen changes to reflect the logo of the beverage it now contains. As the container fills, an animation shows progress (**417**). Alternatively, while waiting, the user is entertained through media content downloaded by the beverage machine onto the container. The charge for the beverage is automatically debited through an RFID payment system disposed on the container. A points system awards the user for each purchase that is made through the reusable container with a carbon credit or bottle return credit, rewarding the user for not requiring disposable containers.

4.13 Office Theme

[0187] In this non-limiting example, the user enters his office with his cup after the morning commute, and places the cup in his charger accessory. The container recognizes it is now in the workplace and displays relevant application contents, such as a clock or calendar. It also features a map of the facility, with a status for the closest coffeemakers. When it is time for a cup of coffee, the user is directed to the nearest coffeemaker that contains fresh coffee. After returning to the desk, the user wants to download a pdf for reading during the evening commute to the container. He does so by dragging the icon of the document on the desktop of his computer to the icon of the container on said desktop. The document is copied to the container where it is made available for later use.

Example 5

Flexible Textile Display

[0188] In this non-limiting example the flexible display surface consists of electronic textile displays such as but not limited to OLED textile displays known in the art, or white textiles that are tracked and projected upon using the apparatus of this invention. These textile displays may be worn by a human, and may contain interactive elements such as buttons, as per Example 3. In one embodiment of said flexible display fabric, the textile is worn by a human and the display is used by a fashion designer to rapidly prototype the look of various textures, colors or patterns of fabric on the design, in order to select said print for a dress or garment made out of real fabric. In another embodiment, said textures on said flexible textile displays are permanently worn by the user and constitute the garment. Here, said flexible display garment may display messages that are sent to said garment through electronic means by other users, or that represent advertisements and the like.

[0189] In another embodiment, the flexible textile display is worn by a patient in a hospital, and displays charts and images showing vital statistics, including but not limited to x-ray, ct-scan, or MRI images of said patient. Doctors may interact with user interface elements displayed on said flexible textile display through any of the interaction techniques of this invention and any technique know in prior art. This includes tapping on buttons or menus displayed on said display to select different vital statistics of said patient. In an operating theatre, the flexible textile display is draped on a patient in surgery to show models or images including but not limited to x-ray, ct-scan, MRI or video images of elements inside the patients body to aid surgeons in, for example, pinhole surgery and minimally invasive operations. Images of various regions in the patient's body may be selected by moving the display to that region.

Example 6

Flexible Human Display

[0190] Alternatively, images of vital statistics, x-rays, ct-scans, MRIs, video images and the likes may be projected directly onto a patient to aid or otherwise guide surgery. Here, the human skin itself functions as a display through projection onto said skin, and through tracking the movement and shape of said skin by the apparatus of invention. Such images may contain user interface elements that can be interacted with by a user through techniques of this invention, and those known in the art. For example, tapping a body element may bring up a picture of the most recent x-ray of that element for display, or may be used as a form of input to a computer system.

Example 7

Origami Flexible Display

[0191] In this embodiment, several pieces of flexible display are affixed to one another through a cloth, polymer, metal, plastic or other form of flexible hinge such that the shape of the overall display can be folded in a variety of three dimensional shapes, such as those found in origami paper folding. Folding action may lead to changes on the display or trigger computer functionality. Geometric shapes of the overall display may trigger behaviors or computer functionality.

Example 8

Flexible Input Device

[0192] In this embodiment, the flexible surface with markers is used as input to a computer system that displays on a standard display that is not said flexible surface, allowing use of said flexible surface and the gestures in this invention as an input device to a computing system.

[0193] The contents of all cited patents, patent applications, and publications are incorporated herein by reference in their entirety. While the invention has been described with respect to illustrative embodiments thereof, it will be understood that various changes may be made in the embodiments without departing from the scope of the invention. Accordingly, the described embodiments are to be considered merely exemplary and the invention is not to be limited thereby.

REFERENCES

[0194] 1. Balakrishnan, R., G. Fitzmaurice, G. Kurtenbach and Singh, K. Exploring Interactive Curve and Surface Manipulation Using a Bend and Twist Sensitive Input Strip. In *Proceedings of the* 1999 *Symposium on Interactive* 3*D graphics*, ACM Press, 1999, pp. 111-118.